



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 13, 2004

Mr. F. Andrew Piszkin
BRAC Environmental Coordinator
Base Realignment and Closure
Marine Corps Air Station, El Toro
7040 Trabuco Road
Irvine, CA 92618

RE: Draft Site Assessment Report, IRP Site 16, Former Marine Corps Air Station, El Toro,
dated March 30, 2004

Dear Mr. Piszkin:

EPA has reviewed the draft Site Assessment Report for IRP Site 16 at MCAS El Toro. The report presents results of field activities to further evaluate total petroleum hydrocarbons as well as residual volatile organic compounds that may remain entrained in the TPH in the soil.

In general, we found that the report provided valuable information about both the TPH and the VOC contamination remaining in soil at Site 16. As noted in our enclosed comments, the report would be more complete if a discussion of next steps based on the conclusions and recommendations was included in the report.

If you have any questions, please call me at (415)972-3012.

Sincerely,

A handwritten signature in cursive script, reading "Nicole Moutoux", is positioned above the typed name.

Nicole Moutoux
Project Manager
Federal Facilities Cleanup Branch

cc: Tayseer Mahmoud, DTSC
John Broderick, RWQCB
Bob Woodings, RAB Co-Chair
Marcia Rudolph, RAB Subcommittee Chair
Marc Smits, SWDIV

received
5/18/04

EPA Comments on Draft Site Assessment Report IRP Site 16
MCAS El Toro
May, 2004

General Comments

1. The Discussion and Recommendations section recommends use of SVE to remove remaining TPH and TCE contamination but there is no discussion of next steps. Please provide a discussion of how these recommendations will be followed up on for both TPH and TCE contamination.
2. There is no figure for TPHd in soil at depths of 0-20 feet below ground surface (bgs), which would be the interval most useful for depicting the contamination at the hand-held fire-training pit as well as the down gradient northwestern edge of the main pit plume. Please provide a figure for shallow soil, especially since TPH at IRP16-CB-01 and IRP16-CB-02 is high.
3. Appendix B, Figure 1-2 is a reproduction of a 1980 aerial photograph that shows that the impacted area extends beyond the three pits in Units 1 and 2. This extended area to the southwest was included in the sampling for this investigation. However, it appears that there may be a "finger" of impacted ground that extends to the southeast off of the southwest extension that was not included in sampling. As this is a poor reproduction, this "finger" may be a result of the quality of the figure. Please include an explanation why sampling was not considered necessary in this area.
4. Unit 3 is the drainage ditch for Units 1 and 2, and yet the impacted ground described in comment #3 appears in the aerial photograph to be associated with drainage outside of Unit 3. Please clarify how the ground outside of the fire-fighting pits and drainage ditch was impacted by fire-fighting activities.
5. One of the primary objectives of this assessment was to completely delineate the vertical and lateral extent of TPH in the vadose zone(see first bullet on page 1-3). This does not appear to have been achieved in this report. Please discuss how this remaining data gap will be addressed.

Specific Comments

1. **Section 5.1, Site Geology, Page 5-1:** This section includes a written description of the general site stratigraphy rather than providing a visual representation of the stratigraphy. As there are lithologic data for the borings, it would be helpful to have that data mapped to assess the potential for vertical and horizontal migration of TPH and VOCs. Please

provide a stratigraphic cross-section.

2. **Section 5.1, Site Geology, Page 5-1:** There is a finer grained unit at 80 to 100 feet bgs that the text states impedes vertical migration of contaminants. The presence of a TPHd concentration of 4800 mg/kg and a TPHg concentration of 5,100 mg/kg at about 110' bgs at boring IRP16_CB11 contradicts the above statement; the higher values from samples taken at shallower depths within the same boring could represent the general trend from high concentrations at the surface release area to lower concentrations at depth due to dispersion. Other borings do not have elevated TPH concentrations below this fine grained unit, and thus it may be that the unit impedes downward migration but not consistently. A stratigraphic representation of the area would aid in determining the downward mobility of the contaminants. The permeability and continuity of this fine grained layer (and others) will be important in determining the feasibility of remedial options. Please address this by providing a visual stratigraphic representation and discussing possible reasons for the difference in downward migration.
3. **Section 5.2, Petroleum Hydrocarbons, Page 5-2:** Both TPHd and TPHg data are posted on Figures 8 through 12, but only TPHd is contoured. Please explain the lack of TPHg data and isocontours.
4. **Section 5.3, Volatile Organic Compounds, Page 5-3:** There are two different residential PRGs listed for TCE in this section: 53 ug/kg in paragraph 1 and 52 ug/kg in paragraph 2. Please correct this error.
5. **Section 5.4, Discussion, Page 5-4:** The text suggests that there is either an increase in TPH concentration with depth or the site assessment boring was located in a zone of higher concentration for this assessment, but that either way, the extent of TPH analytes is sufficiently defined to evaluate potential impacts to groundwater. If the differences in TPH concentration between past investigations and the current assessment are due to downward migration, the contamination problem could be much greater than simply a different screened interval. Please provide more explanation for why TPH contamination is sufficiently defined.
6. **Section 5.4, Discussion, Page 5-4:** It is stated that VOCs at low concentrations are more widely distributed than TPH, but that they are likely still entrained together, as the detection limit is much lower for VOCs. Rather than simply providing numbers of samples that apparently have similar TPH and VOC contamination problems it would be very helpful to have a visual representation of the delineation of the VOC contamination to compare to the extent of the TPH plumes. Please consider providing this figure for comparison.
7. **Section 7.0, Discussion and Recommendations, Page 7-2:** Again, the last paragraph discusses the need for three or four separate screened intervals in nested or clustered wells to remediate soil gas because of differences in permeability. It would be helpful to have a stratigraphic cross-section to refer to.

8. **Figure 4, TPH in Soil:** There appear to be two wells on the down gradient edge of the main pit TPH plume that have high surface soil concentrations of TPH and have no wells further down gradient with which to confirm non-detect concentrations. At 5 feet bgs, IRP16-CB-01 has a TPHd concentration of 18,000 mg/kg, while IRP16-CB-02 has a TPHd concentration of 13,000 mg/kg and a TPHg concentration of 9900 mg/kg. Figure 5, Detected VOC Analytes in Soil, indicates that concentrations of TCE are also elevated, at concentrations of 1,400 ug/kg and 2,700 ug/kg at 5 and 10 feet bgs respectively, at IRP16-CB-02. It does not seem like the extent of either TPH or TCE contamination at the northwestern edge of Unit 1 are adequately characterized at this point. It is possible that these contaminants are present further northwest at concentrations of concern, both at the surface and subsurface. Please address this concern, including whether the proposed locations for SVE wells will include these two locations within the Radius of Influence.
9. **Figure 5, Detected VOC Analytes in Soil, and Table 2, Summary of Analytical Results for Soil Samples Collected July 2003:** There are some sample locations with very high non-detect values for VOCs, ex. IRP16-CB-11, IRP16-CB-13, and IRP16-CB-02, and there does not appear to be any explanation for this in the main text or appendices. Please provide an explanation for these high non-detects.
10. **Figure 7, Cross-Section B-B', TPH in Soil:** Boring 16AB213 ends at a total depth of 60' bgs and TPH concentrations of 7,040 mg/kg (TPHd) and 4,690 mg/kg (TPHg). Thus, the extent of vertical contamination at this boring log is incomplete. Please explain how the non-detect isocontour was drawn around this boring, and how this data gap will be addressed.

Minor Comments

1. Page 6-5 contains a couple of editorial errors: The first paragraph in the Evaluation of Results section uses the word "effecting" when it should be "affecting". The fourth bullet in this same section uses the word "acceptor" twice rather than "receptor".
2. Figure 3, Sample Location Map: There is a symbol used frequently on this figure and others that is not defined in the legend. Please check to make sure that all symbols used in a figure are defined in the legend.
3. Figure 3, Sample Location Map: There are two boundaries drawn around the main pit. Please explain.